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European Patent Office
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AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

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95908707.3 / 0 742 984

(71) Applicants:
• **Przyborski, Glenn B.**
Pittsburgh, PA 15214 (US)
• **Gibson, Robert F.**
Pittsburgh, PA 15236 (US)
• **Harn, John H.**
Coraopolis, PA 15108 (US)

• **Hucke, Lloyd R., III**
Library, PA 15129 (US)

(72) Inventors:
• **Przyborski, Glenn B.**
Pittsburgh, PA 15214 (US)
• **Gibson, Robert F.**
Pittsburgh, PA 15236 (US)
• **Harn, John H.**
Coraopolis, PA 15108 (US)
• **Hucke, Lloyd R., III**
Library, PA 15129 (US)

(74) Representative: **Howe, Steven et al**
Lloyd Wise, Tregear & Co.,
Commonwealth House,
1-19 New Oxford Street
London WC1A 1LW (GB)

(54) Apparatus and method for creating film-like video

(57) A video camera for real time simulation of the visual appearance of motion picture film that has been transferred or converted to a video signal comprising analog signal input conditioning circuitry (402), an analog to digital converter (403), timing and control circuitry (404), an address multiplexer and memory control (405), a digital adder (406), and a digital to analog converter (407). A method for creating the look of broadcast

motion picture film comprising the steps of increasing the scan rate of image sensors to output non-interlaced video images, converting the video images from analog to digital form, writing the images to memory, adding a selective adjustable amount of two dimensional, electronic artifacts to simulate film grain, reading the video images from memory to a video output data bus at pre-determined rates, and converting the video images from digital to analog form for recording or broadcast.

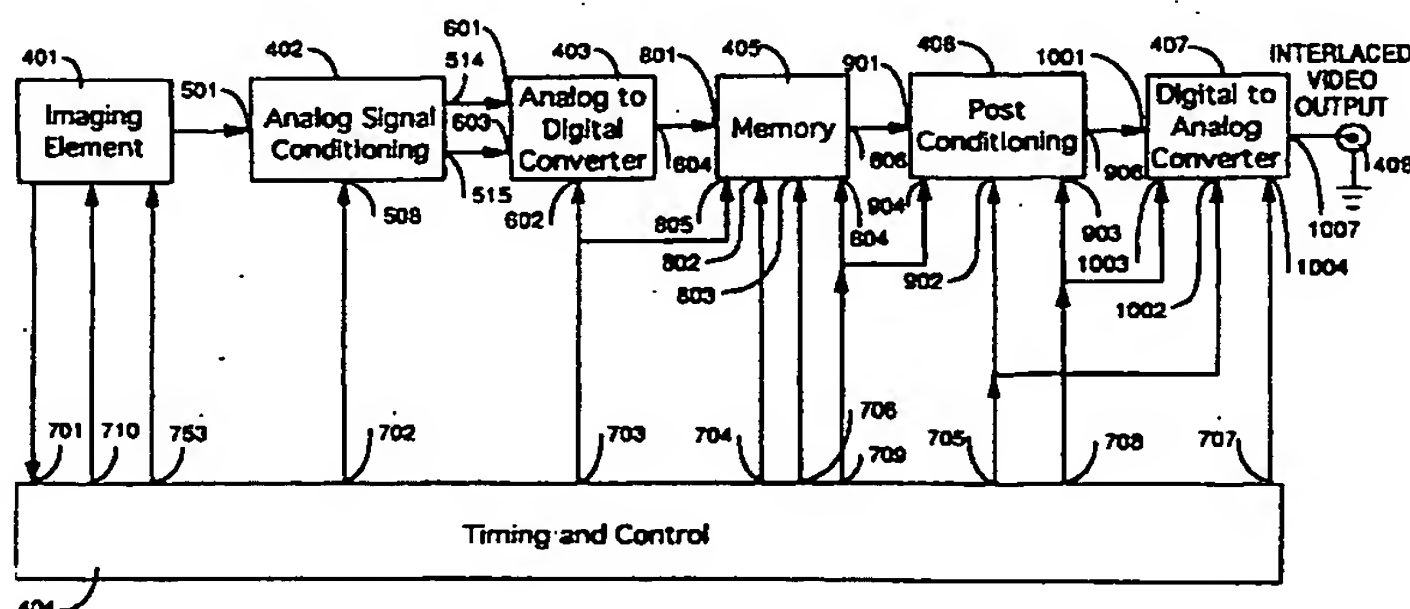


FIG. 4



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 3471

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	WO 93 14591 A (FABER ROBERT A) 22 July 1993 (1993-07-22) * column 3, line 2 - line 18 *	1	
Y	* column 4, line 14 - line 46 *	4	
A	* column 5, line 7 - line 32 *	2,3,5,6	
	* column 6, line 37 - line 50 *		
	* figure 1 *		
Y	--- US 3 832 487 A (DE NIET E) 27 August 1974 (1974-08-27) * column 2, line 10 - line 45 *	4	

The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 18 February 2002	Examiner Raeymaekers, P
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 20 3471

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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18-02-2002

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		WO 9314591 A1	22-07-1993
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European Patent Office
Office européen des brevets



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(12)

EUROPEAN PATENT APPLICATION

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(51) Int Cl.7: G06T 1/00

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(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR
Designated Extension States:
AL LT LV MK RO SI

(72) Inventors:
• Jones, Paul William
Rochester, New York 14650-2201 (US)
• Honsinger, Chris W.
Rochester, New York 14650-2201 (US)

(30) Priority: 13.12.2000 US 736067

(71) Applicant: EASTMAN KODAK COMPANY
Rochester, New York 14650-2201 (US)

(74) Representative: Haile, Helen Cynthia et al
Kodak Limited
Patent, W92-3A,
Headstone Drive
Harrow, Middlesex HA1 4TY (GB)

(54) **System and method for embedding a watermark signal that contains message data in a digital image**

(57) A method for embedding a watermark signal that contains message data in a digital image represented as a two-dimensional array of pixel values, includes the steps of: providing a dispersed message image having pixel values representative of the message data;

modifying each pixel value of the dispersed message image as a function of the corresponding pixel value in the digital image; and combining the modified dispersed message image with the digital image to produce a watermarked image.

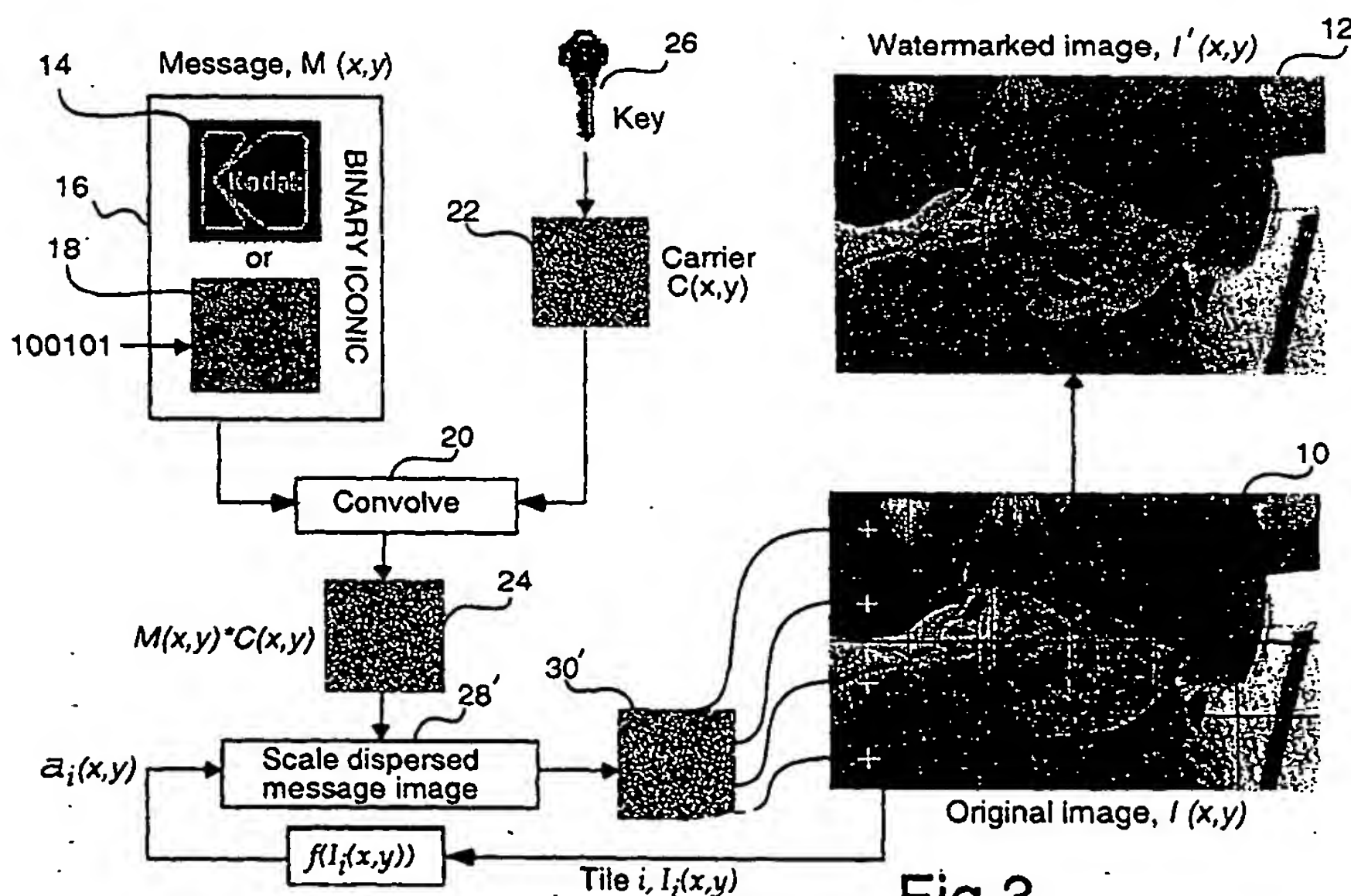


Fig.3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 20 4593

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Y	--- BARNI M ET AL: "A DCT-domain system for robust image watermarking" SIGNAL PROCESSING. EUROPEAN JOURNAL DEVOTED TO THE METHODS AND APPLICATIONS OF SIGNAL PROCESSING, ELSEVIER SCIENCE PUBLISHERS B.V. AMSTERDAM, NL, vol. 66, no. 3, 28 May 1998 (1998-05-28), pages 357-372, XP004124957 ISSN: 0165-1684 * section 3.4 *	1-3,6-8	
A	--- MARVEL L M ET AL: "A methodology for data hiding using images" MILITARY COMMUNICATIONS CONFERENCE, 1998. MILCOM 98. PROCEEDINGS., IEEE BOSTON, MA, USA 18-21 OCT. 1998, NEW YORK, NY, USA, IEEE, US, 18 October 1998 (1998-10-18), pages 1044-1047, XP010307980 ISBN: 0-7803-4506-1 * page 1045, right-hand column *	1-10	TECHNICAL FIELDS SEARCHED (Int.Cl.7) G06T
A	--- BARNI M ET AL: "Robust watermarking of still images for copyright protection" DIGITAL SIGNAL PROCESSING PROCEEDINGS, 1997. SANTORINI, GREECE 2-4 JULY 1997, NEW YORK, NY, USA, IEEE, US, 2 July 1997 (1997-07-02), pages 499-502, XP010251079 ISBN: 0-7803-4137-6 * section 3.3 *	1-10	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 10 October 2003	Examiner dos Santos, L
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03 82 (P04C01)



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 01 20 4593

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	<p>JIANHAO MENG ET AL: "Embedding visible video watermarks in the compressed domain" INTERNATIONAL CONFERENCE ON IMAGE PROCESSING, 1998. ICIP 98. CHICAGO, IL, USA 4-7 OCT. 1998, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 4 October 1998 (1998-10-04), pages 474-477, XP010308754 ISBN: 0-8186-8821-1 * section 2 *</p> <p style="text-align: center;">-----</p>	1-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 10 October 2003	Examiner dos Santos, L
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 01 20 4593

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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10-10-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6044156	A	28-03-2000	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82



Europäisches Patentamt
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Office européen des brevets

Publication number:

**0 373 615
A3**

12

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21 Application number: **89123015.3**

51 Int. Cl.5: **H01F 10/14, H01F 10/18**

22 Date of filing: **13.12.89**

30 Priority: **15.12.88 JP 317475/88**
16.12.88 JP 319089/88
06.10.89 JP 262405/89
06.10.89 JP 262406/89

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71 Applicant: **Matsushita Electric Industrial Co., Ltd.**
1006, Oaza Kadoma
Kadoma-shi, Osaka-fu(JP)

72 Inventor: **Ihara, Keita**
1-307, Myokenzaka-5-chome
Katano-shi(JP)
Inventor: **Sakakima, Hiroshi**
28-15, Katahokohonmachi
Hirakata-shi(JP)
Inventor: **Osano, Koichi**
2-4-302, Kamotanidai-3-chome
Sakai-shi(JP)

74 Representative: **Patentanwälte Leinweber & Zimmermann**
Rosental 7/II Aufg.
D-8000 München 2(DE)

54 **Soft magnetic alloy films and the method of manufacturing the same.**

57 A nitrogen-containing Fe-based soft magnetic alloy suitable for use as the material of a magnetic head core, as well as a method for manufacturing the soft magnetic alloy film. Unlike a mere nitride alloy film, the soft magnetic alloy of the present invention has a compositionally modulated structure in which at least the nitrogen content is periodically modulated in the direction of thickness of the film so as to have a nitride layer rich at least in nitrogen and a non-nitride layer poor at least in nitrogen. The soft magnetic alloy film of the invention comprises a main constituent of Fe, at least one metalloid element selected from the group consisting of B, Si and C, and at least one metal element selected from the group consisting of Nb, Ta, Zr and Ti and has fine Fe-based grains included therein. By virtue of these film structure and film composition, the soft magnetic alloy film of the invention exhibits superior magnetic characteristics such as low coercive force, high saturation magnetization and low magnetostriction, as well as superior resistance both to corrosion

and wear. The method of the invention is for forming the soft magnetic alloy of the invention, and has the steps of forming by sputtering a compositionally modulated nitride alloy film, and then effecting on the compositionally modulated nitride alloy film a high-temperature heat treatment so as to cause a change in a film structure to form the soft magnetic alloy film.

EP 0 373 615 A3





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 89 12 3015

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 174 144 (HITACHI) * Page 3, lines 5-19; page 10, lines 6-15, 20-24; page 12, lines 4-18; page 18, lines 2-9; page 19, line 22 - page 20, line 4; claim 8; figures 7a,b *	1	H 01 F 10/14 H 01 F 10/18
A	---	3,4,6,7	
X	PATENT ABSTRACTS OF JAPAN, vol. 13, no. 132 (E-736)[3480], 31st March 1989, page 95 E 736; & JP-A-63 299 219 (SONY CORP.) 06-12-1988 * Whole document *	1	
A	IDEM	2-8	
A	DE-A-3 707 522 (MATSUSHITA) * Page 7, table 1; page 8, lines 46-48; page 9, lines 1-46, 55-57; claims 1-3; figures 4a,b *	1-9	
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The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-07-1990	Examiner KLOCKE S.
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document</div>			

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Organization
International Bureau



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2 December 2004 (02.12.2004)

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H04N 5/262

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(22) International Filing Date: 30 March 2004 (30.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/470,712 15 May 2003 (15.05.2003) US

(71) Applicant (for all designated States except US): **THOMSON LICENSING S.A.** [FR/FR]; 46, Quai A. Le Gallo, F-92648 Boulogne (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **GOMILA, Cristina** [ES/US]; 25C Chestnut Court, Princeton, NJ 08540 (US). **KOBILANSKY, Alexander** [US/US]; 17 Seneca Road, Ossining, NY 10562 (US).

(74) Agents: **TRIPOLI, Joseph, S. et al.**; Thomson Licensing Inc., Two Independence Way, Suite #200, Princeton, NJ 08540 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

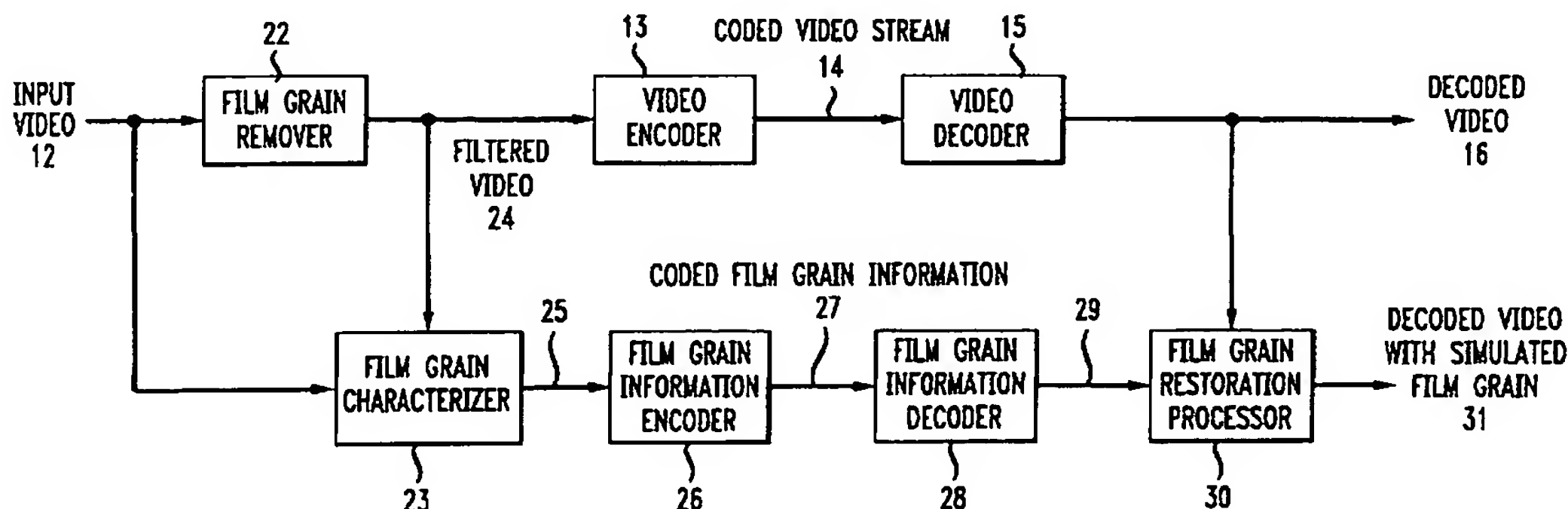
Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
24 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND APPARATUS FOR REPRESENTING IMAGE GRANULARITY BY ONE OR MORE PARAMETERS



(57) Abstract: To simulate film grain in a compressed video signal, a decoder (15, 28) receives a message containing information that contains a set of one or more parameters, each specifying certain attribute associated with the film grain. For example, one of the parameters will specify the model used to simulate the film grain, whereas other parameters each specify a particular factor associated with that model. Upon receipt of the message, the decoder selects the model, and simulates the film grain for addition to the video signal following decompression.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US2004/009866

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06T9/00 H04N5/262

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06T H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, INSPEC, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 641 596 A (COK DAVID R ET AL) 24 June 1997 (1997-06-24)	1-4, 9, 10, 14, 15, 18-20
A	abstract; figures 2, 3 column 6, line 19 - line 67	5-8, 11-13, 16, 17, 21, 22
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

25 January 2005

Date of mailing of the international search report

02/02/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Herter, J

INTERNATIONAL SEARCH REPORT

In International Application No
F/1/JS2004/009866

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>CAMPISI P ET AL: "Signal-dependent film grain noise generation using homomorphic adaptive filtering"</p> <p>IEE PROCEEDINGS: VISION, IMAGE AND SIGNAL PROCESSING, INSTITUTION OF ELECTRICAL ENGINEERS, GB, vol. 147, no. 3, 23 June 2000 (2000-06-23), pages 283-287, XP006014574 ISSN: 1350-245X the whole document</p>	1-22
A	<p>JACKY CHUN KIT YAN ET AL: "Signal-dependent film grain noise removal and generation based on higher-order statistics"</p> <p>HIGHER-ORDER STATISTICS, 1997., PROCEEDINGS OF THE IEEE SIGNAL PROCESSING WORKSHOP ON BANFF, ALTA., CANADA 21-23 JULY 1997, LOS ALAMITOS, CA, USA, IEEE COMPUT. SOC, US, 21 July 1997 (1997-07-21), pages 77-81, XP010239820 ISBN: 0-8186-8005-9 the whole document</p>	1-22
A	<p>WO 02/33958 A (EASTMAN KODAK CO) 25 April 2002 (2002-04-25) abstract; figures 7,13 page 2, line 28 - page 3, line 4 page 4, line 23 - line 26 page 5, line 5 - line 24 page 11, line 6 - page 12, line 10 page 14, line 17 - line 19 page 19, line 28 - page 20, line 28 page 21, line 5 - page 23, line 11 page 25, line 6 - page 27, line 29 page 35, line 11 - page 36, line 6</p>	1-22
A	<p>US 2002/034337 A1 (SHEKTER JONATHAN MARTIN) 21 March 2002 (2002-03-21) abstract; figures 1,8 paragraph '0072!</p>	1-22
A	<p>US 6 269 180 B1 (SEVIGNY BENOIT) 31 July 2001 (2001-07-31) abstract; figures 10,20 column 6, line 59 - column 7, line 24</p>	1-22

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Information on patent family members

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